

**REMARKS**

Claims 22-42 were presented for examination and claims 22, 24-33, and 35-42 were rejected and claims 23 and 34 were objected to. In the present amendment, Applicants have amended claims 22, 26, 27, 33, 36 and 37 and added claim 43. No new matter has been added. Upon entry of the present amendment, claims 22-43 will be currently pending, of which claims 22, 33 and 43 are independent. Applicants submit that claims 22-43 are patentable and in condition for allowance.

The following comments address all stated grounds of rejection. Applicants respectfully traverse all rejections and urge the Examiner to withdraw the finality of the rejections and pass the claims to allowance in view of the remarks set forth below.

**EXAMINER INTERVIEW**

Applicants wish to thank the Examiner for taking the time to conduct a telephonic interview with Applicants' representative on February 19, 2010. During the interview, the Examiner and Applicants' representative discussed allowable subject matter in claims 23 and 34, and the rejections under 35 U.S.C. §112.

**INFORMATION DISCLOSURE STATEMENT**

In the Final Office Action, the Examiner objected to the Information Disclosure Statement submitted on June 26, 2009 for formalities. Applications resubmitted the Information Disclosure Statement with their Response to Final Office Action of February 8, 2010, with copies of each foreign patent document and non-patent literature publication listed, to address the

Examiner's comments. Accordingly, Applicants respectfully request the Examiner to withdraw the objection and consider the references cited therein.

**CLAIM REJECTIONS UNDER 35 U.S.C. §112**

I. Claims 22, 26, 27, 33, 36 and 37 Rejected Under 35 U.S.C. §112, Second Paragraph

Claims 22, 26, 27, 33, 36 and 37 were rejected under 35 U.S.C. §112, second paragraph, as being indefinite. Applicants have amended these claims to address the Examiner's comments, and submit that, as amended, these claims particularly point out and distinctly claim the subject matter of the current invention. Accordingly, Applicants respectfully request the Examiner to withdraw the rejection to claims 22, 26, 27, 33, 36 and 37 under 35 U.S.C. §112.

**CLAIM REJECTIONS UNDER 35 U.S.C. §102**

II. Claims 22, 24-26, 28-29, 31, 33, 35-36, 38-39 and 41 Rejected as Anticipated by Abbott

Claims 22, 24-26, 28-29, 31, 33, 35-36, 38-39 and 41 were rejected as anticipated by U.S. Patent No. 6,314,463 to Abbott *et al.* ("Abbott"), under 35 U.S.C. §102(e). Claims 22 and 33 are independent claims. Claims 24-26, 28-29 and 31 depend on and incorporate all of the patentable subject matter of independent claim 22. Claims 35-36, 38-39 and 41 depend on and incorporate all of the patentable subject matter of independent claim 33. Applicants traverse this rejection and submit that Abbott fails to disclose each and every element of the claimed invention.

A. Independent Claims 22 and 33 Not Anticipated by Abbott

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. As amended, claims 22

and 33 recite a method and system, respectively, for putting a client on hold. These claims recite an interface unit (i) putting a client on-hold responsive to a server response time exceeding a threshold, (ii) establishing a waiting time for the client, and (iii) transmitting an on-hold request to an on-hold server based upon the waiting time. Abbott fails to disclose each and every element of the claimed invention.

First, Abbott fails to disclose an interface unit (i) putting a client on-hold responsive to a server response time exceeding a threshold. Abbott describes a load balancing system for a plurality of servers (Abbott, Abstract). If a server response time exceeds a threshold, Abbott simply redirects the client to another server. In fact, the Examiner notes in the Office Action that Abbott's manager instructs an interceptor to "cease redirection to a particular network address/port endpoints. This is an effort to reduce the load on that particular web server or host when the web server or host is found to be under heavy load." (Office Action, page 4-5, quoting Abbott, col. 17, lines 40-49, emphasis added). Thus, Abbott is focused on the server rather than the client: instead of putting a *client* on hold, Abbott takes a *server* offline.

Second, Abbott fails to disclose an interface unit (ii) establishing a waiting time *for the client*. The Examiner cites Abbott's figure 5 and related text, which describe an agent executing on Abbott's servers (agent 106, Figs. 1 and 3) determining what part of a *server's* total processing time is spent queued and what part is spent processing, as part of the load balancing discussed above. This is not the same as a waiting time *for the client*, which is described at least in paragraphs 48 and 54 of the present disclosure. Rather, Abbott is merely describing how its manager determines that a server's processing time exceeds a threshold time, which the Examiner cites to describe step (b) of claim 22. Step (d) of claim 22 is a distinct step from step (b), and is directed explicitly to establishing a waiting time *for the client*.

Furthermore, Abbott's processing time is not a *waiting time* for an on-hold client. Abbott's servers *always* have a processing time, and Abbott is merely determining whether the processing time is greater than or less than a threshold, at which point the load needs to be rebalanced. This is not the same as a time that a client placed on-hold needs to wait before it can be taken off hold.

Third, Abbott fails to disclose an interface unit (iii) transmitting an on-hold request to an on-hold server based on the waiting time. As discussed above, Abbott merely describes load balancing. If another server is available, Abbott's client's request is redirected to the alternate server. Even if Abbott's alternate server is read as an on-hold server, Abbott's client's *original* request is redirected, not a new on-hold request. Nor is Abbott's client's request based on a waiting time, because Abbott's client was not waiting when it generated the request. If another server isn't available, Abbott's client's request is forwarded to a web page indicating no servers are available. Again, this is the *original* request, and is neither a new on-hold request nor is it based on the waiting time. Abbott's client either receives a response to its original request without knowledge of any redirection, or receives an error web page. Accordingly, Abbott's client is never placed on-hold, nor is a waiting time established for the on-hold client.

Because Abbott fails to disclose each and every element of the claimed invention, Applicants submit that claims 22 and 33 are patentable and in condition for allowance. Claims 24-26, 28-29 and 31 depend on and incorporate all of the patentable subject matter of independent claim 22. Claims 35-36, 38-39 and 41 depend on and incorporate all of the patentable subject matter of independent claim 33. Therefore, Applicants submit that claims 24-26, 28-29, 31, 35-36, 38-39 and 41 are also patentable and in condition for allowance.

Accordingly, Applicants respectfully request the Examiner to reconsider and withdraw the rejection of claims 22, 24-26, 27-29, 31, 33, 35-36, 38-39 and 41 under 35 U.S.C. §102.

**CLAIM REJECTIONS UNDER 35 U.S.C. §103**

III. Claims 23, 27, 30, 32, 34, 37, 40 and 42 Rejected under 35 U.S.C. §103(a)

Dependent claims 27, 30, 32, 37, 40 and 42 were rejected as unpatentable over Abbott in view of U.S. Patent No. 6,820,260 to Flockhart *et al.* (“Flockhart”) under 35 U.S.C. §103(a).

Dependent claims 23 and 34 were rejected as unpatentable over Abbott in view of U.S. Patent No. 6,317,775 to Colie *et al.* (“Colie”) under 35 U.S.C. §103(a), but the Examiner indicated in the Advisory Action that Applicants’ arguments in their Response to Final Office of February 8, 2010 were persuasive and indicates that these claims are merely objected to. Nonetheless, these arguments have been repeated below, in response to the Final Office Action of December 7, 2009. Applicants traverse these rejections and submit that Abbott, Flockhart and Colie, alone or in combination, fail to teach or suggest each and every element of the claimed invention.

A. Dependent Claims 23, 27, 30, 32, 34, 37, 40 and 42 Patentable over Abbott, Flockhart and Colie

As discussed above, Applicants submit that independent claims 22 and 33 are patentable and in condition for allowance. Claims 23, 27, 30 and 32 depend on and incorporate all of the patentable subject matter of independent claim 22. Claims 34, 37, 40 and 42 depend on and incorporate all of the patentable subject matter of independent claim 33. Therefore, Applicants submit that dependent claims 23, 27, 30, 32, 34, 37, 40 and 42 are also patentable and in condition for allowance.

Furthermore, as discussed above, Abbott fails to teach or suggest an interface unit (i) identifying a client as on-hold responsive to a server response time exceeding a threshold, (ii) establishing a waiting time for the client, and (iii) transmitting an on-hold request to an on-hold server based upon the waiting time.

The Examiner cites Flockhart to describe a code provided to the client receiving a preferred wait time or on-hold preference from a user of the client. The Examiner also cites Flockhart to describe identifying a plurality of web pages with different content according to different wait times. The Examiner further cites Flockhart to describe taking a client off-hold responsive to an agent becoming available. However, Flockhart fails to teach or suggest identifying a client as on-hold responsive to a server response time exceeding a threshold, establishing a waiting time for the client, and transmitting an on-hold request to an on-hold server based upon the waiting time.

The Examiner cites Colie to describe response time estimated from a recurrence relation. Applicants disagree that Colie describes this feature. Claims 23 and 34 of the present disclosure provide the relation

$$t'_{(i+1)} = \frac{(i-1)t_{(i-1)} + it_i}{2i-1} + (t'_i - t_i)K$$

where  $t_i$  denotes the response time at the  $i^{th}$  episode,  $t'_i$  denotes the estimated response time at the  $i^{th}$  episode, and K is a constant of error correction learned from ongoing traffic.

Colie describes calculating a predicted responsiveness according to the formula

$$PR = NC * R - f(t_{current} - t_{agestamp})$$

where  $PR$  is the predicted responsiveness,  $NC$  is the number of connections,  $R$  is the ratio of the time interval  $I$  measured for the server response to the number of connections  $NC$  (see Colie, col.

15, lines 46-49), and  $f(t_{current} - t_{agestamp})$  is an aging function equal to the difference between the current time and an age stamp which corresponds to the time when the last measurement of a response time for the server was made, divided by 4 (see Coli, col. 15, line 66 – col. 16, line 2).

Thus, because  $R = I/NC$ , then  $NC$  cancels out and Colie's equation is equal to

$$PR = I - \frac{(t_{current} - t_{agestamp})}{4}$$

First, the Examiner notes that under the condition  $i=1$ , Applicants' formula is equal to  $t'_{(2)} = t_1 + (t'_1 - t_1)K$ , or that the estimated response time at episode 2 is equal to the response time at episode 1, plus an error correct constant multiplied by the difference between the estimated response time and actual response time at episode 1. The Examiner further notes that if  $K=0$ , then that the estimated response time at episode 2 is equal to the response time at episode 1.

Second, the Examiner turns to Colie's equation and suggests that "if the aging difference is a negative value of one, the predicted response time is the previous response time." This is incorrect for two reasons. First, if the aging difference is a negative value of 1, then  $PR = I + 1/4$ . Only if the aging difference is zero could Colie's  $PR = I$ . Second, Colie's aging difference could never be a negative value of one, unless time is flowing backwards such that the current timestamp is *less* than a previous timestamp. If, on the other hand, Colie's aging difference is zero so that  $PR = I$ , then the current timestamp is *equal* to the previous timestamp, and time has stopped. Neither situation makes sense.

Furthermore, to argue that Colie teaches Applicants' equation, then the same facts must be assumed. The Examiner assumes that Applicants' formula is in the condition of  $i=1$ , or the first episode. If Colie is *also* at episode 1, then Colie has no previous timestamp, and

$(t_{current} - t_{agestamp}) = (t_{current})$ , and  $PR = I - \frac{(t_{current})}{4}$ . This is not equal to Applicant's formula, even under the assumed conditions of  $i=1$  and  $K=0$ . Essentially, Colie's formula uses a *variable* time difference between the current time and the time when the response time was last measured (Colie, col. 16, lines 3-6), while Applicants' formula uses constant time intervals between episodes.

Additionally, Colie, like Flockhart and Abbott, fails to teach or suggest identifying a client as on-hold responsive to a server response time exceeding a threshold, establishing a waiting time for the client, and transmitting an on-hold request to an on-hold server based upon the waiting time.

Because Abbott, Flockhart and Colie, alone or in combination, fail to teach or suggest each and every feature of the claimed invention, Applicants submit that these references fail to detract from the patentability of independent claims 22 and 33 and dependent claims 23, 27, 30, 32, 34, 37, 40 and 42. Therefore, Applicants respectfully request the Examiner to withdraw the rejection of dependent claims 23, 27, 30, 32, 34, 37, 40 and 42 under 35 U.S.C. §103.

### **PATENTABILITY OF NEW CLAIM 43**

New claim 43 is directed towards a method for putting a client on hold. This claim recites putting a client on-hold responsive to a server response time exceeding a threshold, establishing a waiting time for the client, and transmitting an on-hold request to an on-hold server based upon the waiting time. The claim further recites determining that a response time of a requested server exceeds a threshold by calculating an estimated future response time based on:

(i) a weighted average of a previous measured response time and a current measured response time, plus



(ii) a correction factor proportional to the difference between a previously calculated estimated response time and a corresponding previously measured response time.

Support for this new claim can be found at least in paragraphs 39-41 of the present disclosure.

As discussed above, Abbott, Flockhart, and Colie fail to teach or suggest putting a client on-hold responsive to a server response time exceeding a threshold, establishing a waiting time for the client, and transmitting an on-hold request to an on-hold server based upon the waiting time. Furthermore, although Colie describes calculating a predicted responsiveness, as discussed above, Colie calculates this based on a time interval  $I$  for a response minus an aging function equal to the difference between the current time and an age stamp which corresponds to the time when the last measurement of a response time for the server was made:

$$PR = I - \frac{(t_{current} - t_{agestamp})}{4}$$

While  $I$  is a measured response time,  $t_{current}$  and  $t_{agestamp}$  are merely timestamps. In fact, Colie does not retain previous measured response times or previous calculated estimated response times. Thus, Colie fails to teach or suggest either (i) a waited average of a *previous measured* response time and a current measured response time or (ii) a correction factor proportional to the difference between a *previously calculated estimated* response time and a corresponding *previously measured* response time.

### **CONCLUSION**

In light of the aforementioned amendments and arguments, Applicants contend that each of the Examiner's rejections have been adequately addressed and all of the pending claims are in condition for allowance. Accordingly, Applicants respectfully request reconsideration and withdrawal of finality of the rejections, and allowance of all of the pending claims.

Should the Examiner feel that a telephone conference with Applicants' agent would expedite prosecution of this application, the Examiner is urged to contact the Applicants' agent at the telephone number identified below.

Respectfully submitted,

Dated: March 8, 2010

CHOATE, HALL & STEWART, LLP

Choate, Hall & Stewart, LLP  
Two International Place  
Boston, MA 02110  
(617) 248-5000

/Daniel E. Rose/  
Daniel E. Rose  
Registration No. 63,214  
Agent for Applicants